

## Progress Report No. 12

Title: A Study of the Early Detection of Insect Infestations and Density/Distribution of Host Plants.

Citrus Insects Research  
USDA, ARS  
409 West Fourth St., Weslaco, Texas 78596

Period: January 1-31, 1974

EREP Investigation No. 319  
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Principal Investigator: William G. Hart  
Sammy J. Ingle  
M. R. Davis

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NASA Technical Monitor: Clayton Forbes, Mail Code TP6  
NASA-Manned Spacecraft Center  
Experiment Development & Integration Bldg.  
Houston, Texas 77058

- A) During this period flying was limited to 10 hours because of unfavorable weather conditions. We continued to photograph the RGV lines and completed line 19. That provides 60 per cent of the planned coverage. The slow rate at which we have been able to conduct these flights due to unfavorable weather conditions will reduce the value of this photography somewhat since seasonal variations over the prolonged period required for one complete coverage will obscure some detail. The Mission Test Site was photographed during a Skylab 4 pass as well as the Delta Lake Test Site.
- (B) Since the final Skylab 4 Data take was collected during this period, we will be using only aerial photography for the remainder of the program. It will be used to observe seasonal changes in our area, as well as completing the RGV map in color infrared.
- (C) During the last reporting period the valley had a hard freeze which should provide distinct contrasts that will aid identification of pertinent factor. We are watching closely the regrowth of the citrus trees, as well as other crops and host plants of agricultural pests. From aerial photography we are able to define and delimit the areas that were hardest hit by the freeze. It is anticipated that this information will provide valuable assistance in the interpretation of Skylab 4 data collected at this time.

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Research Service)

(E74-10600) A STUDY OF THE EARLY  
DETECTION OF INSECT INFESTATIONS AND  
DENSITY/DISTRIBUTION OF HOST PLANTS  
Progress Report, 1-31 Jan. (Agricultural  
Research Service)

- (D) We have ground truth and aircraft data concerning orchards damaged by the freeze and to what extent. This may provide data on how seriously fruit production will be affected during the coming year. It may also be possible to relate this to insect problems during the coming season. The Skylab photographs taken this month should provide the most useful data to date since the freeze took out many conflicting signatures. This should significantly improve our interpretation capability.
- (E) The completion of the objectives of the experiment will be dependent on the data received from Skylab 4. Aircraft flights will be continued to evaluate the influence of the freeze on the various crops and the pests associated with them. This data can then be related back to Skylab 4 data when it is received. We are encouraged by the fact that the S-190B system was used to collect data over our test site area.
- (F) Travel was very limited during this period.